

TITLE 410 INDIANA STATE DEPARTMENT OF HEALTH

LSA Document #12-156

SUMMARY OF CHANGES BETWEEN PROPOSED RULE AND FINAL RULE

1. Changed “on-site” to “onsite” in title, digest description, and throughout the rule
 - a. “On-site” was intentionally left as-is in the following sections: 32; 50; 53; 56; 58; 61; 62; 70; 71; 72.
2. Paginated the document
3. **Section 30:** removed “Base Flood Elevation” and “BFE” as part of the definition. Also removed the statement, “The RFE is equivalent to the BFE and the one hundred (100) year frequency flood.” Added statement, “The regulatory flood elevation is also referred to as the base flood elevation.”
4. **Section 44(4):** changed “consistency” to “consistence”
5. **Section 46**
 - a. Deleted “a” from the first sentence
 - b. **Section 46(1):** added “a” before “depth”
 - c. **Section 46(2):** added “a” before “layer”
6. **Section 52(e)(1):** replaced “wastewater” with “sewage”
7. **Section 53**
 - a. Added a space between subsections (f) and (g)
 - b. **Section 53(j)(1):** changed “60(i)” to “60(h)” to reference the correct subsection
 - c. **Section 53(o)(2):** added “sewage” after “onsite” and before “system”
8. **Section 57**
 - a. **Section 57(a), Table I:**
 - i. Added “lake” to the line “Public water supply well or reservoir¹” so it now reads, “Public water supply well, lake or reservoir”; added footnote number to the same line for reference to footnote number 3.
 1. Based on public hearing comment that a lake can be a public water supply reservoir, but it is not clear in the rule. The reference to

footnote number 3 was added for clarity that this footnote is applicable.

- ii. Added “or” to “Other pond, retention pond, lake, reservoir³” so that it now reads, “Other pond, retention pond, lake, or reservoir³”
- iii. Added “closed loop geothermal systems” to the line “Buildings, foundations, slabs, garages, patios, barns, aboveground and belowground swimming pools, retaining walls, roads, driveways, parking areas, or paved sidewalks” so it now reads, “Buildings, foundations, slabs, garages, patios, barns, aboveground and belowground swimming pools, retaining walls, closed loop geothermal systems, roads, driveways, parking areas, or paved sidewalks”
 - 1. Based on public hearing comment that closed loop geothermal systems should be added as one of the items listed.
- iv. Footnote 3: Added the words “the” and “or ordinary” to the footnote
 - 1. The words “or ordinary” was added based on a public hearing comment that this reference is sometimes used instead of “normal” when describing the high water mark.

b. **Section 57(c):** added “as follows”

9. **Section 58**

- a. **Section 58(a)(2):** Moved the existing clause (D) to clause (E) and added a new item “soil with fragic properties; or” as clause (D); added to the renumbered clause (E) the wording “unless: (i) the on-site soils evaluation report shows that the presence of the horizon is not detrimental to the proper functioning of an onsite sewage system; and (ii) the determination in item (i) is made using the guidelines as set forth in the soil manuals, technical bulletins, and handbooks of the NRCS guidelines and as approved by the department.”

- i. Additional wording for clause (E) based on public hearing comments; clauses rearranged for ease of reading and understanding by the user.

b. **Section 58(c):**

- i. Added “For sites that meet the conditions of subsection (a), the dispersal area shall be as indicated in Table II, as follows:”
 - ii. Table II: added “Ten” and parentheses around the number “10” for minimum dispersal areas for soil absorption systems, “One-fourth” and

parentheses around the number “1/4”, and “One-half” and parentheses around the number “1/2”

c. **Section 58(e)(2):**

- i. Reorganized the wording.
- ii. A new clause (M) added which reads “closed loop geothermal systems” to the list of what shall not impede the flow of water in a dispersal area; renumbered “other structures” from (M) to (N) to reflect the addition
 1. Based on public hearing comment that closed loop geothermal systems should be added as one of the items listed.

10. **Section 59**

- a. **Section 59(d):** The word “the” was deleted, and the phrase “massive clay” was changed to “structureless massive compact clay with firm or very firm consistency”
 - i. The terminology for the clay was changed based on the public hearing comment that this would be more accurate and therefore preferable terminology.
- b. **Section 59(h)(2):** deleted “0” after 0.1
- c. **Section 59(i)(2):** added “with” before “aggregate”

11. **Section 60**

- a. **Section 60(e)(5):** added specific references to subsections after “access opening” and “riser” to be more specific than in the proposed rule, which just referenced the entire section 61 of the rule.
- b. **Section 60(g):** replaced “wastewater” with “sewage”
- c. **Section 60(h)(1):**
 - i. Added “20” to the NSF/ANSI standard so it now reads “NSF/ANSI Standard 40-2010” instead of “NSF/ANSI Standard 40-10”
 1. Referencing by year in four-digit format is the correct way to reference the standard.
 - ii. Added “third party product” and “acceptable to the department”

1. Added for clarity to resolve questions about what type of testing lab facility is intended in this subdivision.

12. **Section 64**

a. **Section 64(e)**

- i. **Section 64(e)(1):** Added “20” to the NSF/ANSI standard so it now reads “NSF/ANSI Standard 46-2010a” instead of “NSF/ANSI Standard 46-10a”
- ii. **Section 64(e)(2) and (3):** “one-sixteenth” changed to “one-eighth” in subdivision (2) so it now reads, “(e) Outlet filters shall: (2) prevent the passage of solids larger than one-eighth (1/8) of an inch”; subdivision (3) was deleted. Subsequent subdivisions renumbered.

1. Based on public hearing comments that these changes would be an improvement to the proposed rule.

iii. **Section 64(e)(4) and (5):** replaced “wastewater” with “sewage”

b. **Section 64(g):** This subsection was deleted; subsequent subsections renumbered.

- i. With the deletion of section 64(e)(3), this subsection no longer had any bearing on the requirements in the rule.

c. **Section 64(h):** “Outlet filter and their cartridges” was changed to “An outlet filter with cartridge”

- i. Based on public hearing comment that the change provides clearer language as to the meaning of the sentence.

d. **Section 64(i)(2):** added “and” to the list

e. **Section 64(j):** added “as follows”

13. **Section 65(b):** added “as follows”

14. **Section 66(f):** added “as follows”

15. **Section 67**

a. **Section 67(a)**

- i. **Section 67(a)(1)(A)(i):** changed the ASTM standard from ASTM D 2665-11 to D 2665-12

1. The number at the end represents the year of adoption. ASTM updated this standard after the first draft of the rule was prepared. The manufacturers comply with the latest version of the standard.
 - ii. **Section 67(a)(1)(B)(ii); Section 67(a)(2)(B)(i) and (ii):** Added “Reapproved” to ASTM Standard D 2680-01, D 1527-99, and D 2282-99, respectively.
 - iii. **Section 67 (a)(1)(C):** Added space between “F” and “480-12” of the ASTM standard so it now reads “F 480-12” rather than “F480-12”
 - b. **Section 67(c):** Added “s” to “lateral”
 - c. **Section 67(e)(3):** Added “September 2003” to NRCS Standard reference
 - i. Added the month and year of adoption of this standard to meet rule writing requirements and distinguish this version from previous versions.
16. **Section 68(a):** added “Section 904, Aggregates” to INDOT Standard Specifications
- a. The applicable reference is found only in Section 904 of that document; additional specificity makes it easier for users to locate exactly where they should look.
17. **Section 69**
- a. Removed the hyphens between the letter and the number in the ASTM standards.
 - b. **Section 69(a)(4), (a)(5) and (a)(7):** Added “Reapproved 2009” to ASTM Standard references D 6241-04 and D 4491-99a
18. **Section 70**
- a. **Section 70(b)**
 - i. **Section 70(b)(6):** Added “unless: (A) the on-site soils evaluation report shows that the presence of the horizon is not detrimental to the proper functioning of an onsite sewage system; and (B) the determination in clause (A) is made using the guidelines as set forth in the soil manuals, technical bulletins, and handbooks of the NRCS guidelines and as approved by the department.
 1. Based on public hearing comment that this provides a preferable approach to this issue. Same as with **71(b)(3)(B)**, **71(c)(3)(B)**, **71(d)(2)(B)**, and **72(b)(5)**.

- ii. **Section 70(b)(7)(A):** Changed “twenty-seven percent” to “twenty percent” so it now reads, “less than twenty percent (20%) clay by volume and greater than thirty-five percent (35%) coarse fragments by volume”
 - 1. Based on public hearing comment that this changes it to an NRCS soil classification break in percentage. Same as with **71(b)(3)(C)**, **71(c)(3)(C)**, **71(d)(2)(C)**, and **72(b)(6)(A)**.
- iii. **Section 70(b)(7)(B):** Changed “twenty-seven percent” to “twenty percent” and “fifty percent” to “sixty percent” so it now reads, “greater than or equal to twenty percent (20%) clay by volume and greater than sixty percent (60%) coarse fragments by volume”
 - 1. Based on public hearing comment that the 20% and 60% are NRCS soil classification breaks in percentages. Same as with **71(b)(3)(D)**, **71(c)(3)(D)**, **71(d)(2)(D)**, and **72(b)(6)(B)**.
- iv. **Section 70(b)(8), Table IV:**
 - 1. Changed the listing of “prismatic” in the column headings in this table.
 - a. Based on public hearing comment that this is the preferable listing of prismatic.
 - 2. Deleted “coarse or” from the heading of column 7
 - a. Technical correction on soils descriptions.
- b. **Section 70(c)(5):** Added “, unless the compaction is broken up by a method approved by the department”
 - i. Based on public hearing comment requesting this wording.

19. Section 71

a. Section 71(b)

- i. **Section 71(b)(3)(B):** Added “unless: (i) the on-site soils evaluation report shows that the presence of the horizon is not detrimental to the proper functioning of an onsite sewage system; and (ii) the determination in item (i) is made using the guidelines as set forth in the soil manuals, technical bulletins, and handbooks of the NRCS guidelines and as approved by the department.

- ii. **Section 71(b)(3)(C):** Changed “twenty-seven percent” to “twenty percent” so it now reads “less than twenty percent (20%) clay by volume and greater than thirty-five percent (35%) coarse fragments by volume”
- iii. **Section 71(b)(3)(D):** Changed “twenty-seven percent” to “twenty percent” and “fifty percent” to “sixty” percent so it now reads, “greater than or equal to twenty percent (20%) clay by volume and greater than sixty percent (60%) coarse fragments by volume”

b. Section 71 (c)

- i. **Section 71(c)(3)(B):** Added “unless: (i) the on-site soils evaluation report shows that the presence of the horizon is not detrimental to the proper functioning of an onsite sewage system; and (ii) the determination in item (i) is made using the guidelines as set forth in the soil manuals, technical bulletins, and handbooks of the NRCS guidelines and as approved by the department.
- ii. **Section 71(c)(3)(C):** Changed “twenty-seven percent” to “twenty percent” so it now reads, “less than twenty percent (20%) clay by volume and greater than thirty-five percent (35%) coarse fragments by volume”
- iii. **Section 71(c)(3)(D):** Changed “twenty-seven percent” to “twenty percent” and “fifty percent” to “sixty” percent so it now reads, “greater than or equal to twenty percent (20%) clay by volume and greater than sixty percent (60%) coarse fragments by volume”

c. Section 71(d)

- i. **Section 71(d)(2)(B):** Added “unless: (i) the on-site soils evaluation report shows that the presence of the horizon is not detrimental to the proper functioning of an onsite sewage system; and (ii) the determination in item (i) is made using the guidelines as set forth in the soil manuals, technical bulletins, and handbooks of the NRCS guidelines and as approved by the department.
- ii. **Section 71(d)(2)(C):** Changed “twenty-seven percent” to “twenty percent” so it now reads, “less than twenty percent (20%) clay by volume and greater than thirty-five percent (35%) coarse fragments by volume”
- iii. **Section 71(d)(2)(D):** Changed “twenty-seven percent” to “twenty percent” and “fifty percent” to “sixty” percent so it now reads, “greater than or equal to twenty percent (20%) clay by volume and greater than sixty percent (60%) coarse fragments by volume”

20. Section 72

a. Section 72(b)

- i. **Section 72(b)(5):** Added “unless: (A) the on-site soils evaluation report shows that the presence of the horizon is not detrimental to the proper functioning of an onsite sewage system; and (B) the determination in clause (A) is made using the guidelines as set forth in the soil manuals, technical bulletins, and handbooks of the NRCS guidelines and as approved by the department.
- ii. **Section 72(b)(6)(A):** Changed “twenty-seven percent” to “twenty percent” so it now reads, “less than twenty percent (20%) clay by volume and greater than thirty-five percent (35%) coarse fragments by volume”
- iii. **Section 72(b)(6)(B):** Changed “twenty-seven percent” to “twenty percent” and “fifty percent” to “sixty” percent so it now reads, “greater than or equal to twenty percent (20%) clay by volume and greater than sixty percent (60%) coarse fragments by volume”
- iv. **Section 72(b)(7), Table V:**
 1. Changed the listing of “prismatic” in the column headings in this table.
 - a. Based on public hearing comment that this is the preferable listing of prismatic.
 2. Deleted “coarse or” from the heading of column 7
 - a. Technical correction on soils descriptions.
- b. **Section 72(c)(5):** Added “, unless the compaction is broken up by a method approved by the department”

- i. Based on public hearing comment and an acceptable wording addition.

21. Section 73, Table VI:

- a. Changed “27 % clay” to “20 % clay” and “50% coarse fragments” to “60% coarse fragments”.
 - i. Based on public hearing comment that these are changes to NRCS soil classification breaks in percentages.
- b. Added a period at the end of the sentence in Footnote 1.

- c. Added footnote 3 to reference the sections where requirements are located in the rule.

22. **Section 74(e):** added “as follows”

23. **Section 75(i):** Added wording to reflect that the distribution box must be at least five feet from the proximal end of any soil absorption field and had to be connected by unperforated pipe. The previous wording was only that the distribution box had to be connected to each trench by five feet of unperforated pipe.

- a. Based on public hearing comment that the meaning should be clarified in this manner.

24. **Section 76, Table IX**

- a. Added “(per 100 feet of pipe)” after the title of the table
 - i. The values listed are for each 100 feet of pipe. This must be specified or the table could be misused, causing significant errors.
- b. Added “Flow velocity must be at least 2 fps” and changed “Flow” to lower case, so it now reads, “Flow velocity must be at least 2 fps; flow velocities above 5 fps should be avoided”
 - i. This table replaces its predecessor to include the use of flow velocities in pipe selection. The selection of a pipe with flow velocities not less than 2 feet per second is necessary for proper functionality.

25. **Section 78(l):** added “as follows”

26. **Section 82**

- a. **Section 82(h)(4), Table XVI:** Added “one-quarter” and parentheses around “1/4” so it now reads, “Pressure distribution lateral diameters for one-quarter (1/4) in. holes spaced at three (3) ft. on centers.”
- b. **Section 82(j):** added “as follows”

27. **Section 84(b):** added “as follows”

28. **Section 85**

- a. **Section 85(b):** replaced “as follows” with “the following apply”
- b. **Section 85(c):** replaces “as follows” with “the following apply”

29. **Section 86(a)(4):** added “as follows”

30. **Section 87(a):** changed “80(b)(3)” to “80(j)” so that it now reads, “The basal area shall be covered using sand that meets the requirements listed in Table XV in section 80(j) of this rule.” 80(j) is the correct subsection where Table XV is located.

31. **Section 88(b)(2):** added “and” to the list

32. **Section 90(a)(4)**

a. “onsite sewage system” changed to “sand mound”

i. Provides clarity as to which type of onsite sewage system is referred to here (not all onsite sewage systems meet this context).

b. Subsection (4) and (5) were combined and clause (B) added to allow the use of flowable fill and the subdivision reformatted accordingly. It now reads, “The tanks must either be: (A) removed or the lids crushed into the tanks and the holes or tanks backfilled with debris-free sand or other granular material, concrete, or soil material that is compacted to prevent settling. (If a sand mound is being abandoned, sand, aggregate and soil cover from the sand mound may be used for filling the tank or tanks); or (B) filled with flowable fill.”

i. Based on public hearing comment that this should be added.

33. **Section 91**

a. **Section 91(b):**

i. Added “20” to the NSF/ANSI standard so it now reads “NSF/ANSI Standard 40-2010”

ii. Added “20” to the NSF/ANSI standard so it now reads “NSF/ANSI Standard 46-2010a”

iii. Replaced “the” with “each”

iv. Added “s” to the end of “standard”

b. **Section 91(c)**

i. Added C 923-08

1. LSA comment. It was referenced in the rule text but inadvertently omitted from the incorporation by reference section in the proposed rule.

ii. Changed the ASTM standard from ASTM D 2665-11 to D 2665-12

- iii. Added “Reapproved” to ASTM Standard references D 1527-99, D 2282-99 and D 2680-01
 - iv. Added “Reapproved 2009” to ASTM Standard references D 4491-99a and D 6241-04
 - v. Removed hyphens between the letter and numbers in the ASTM standards.
 - vi. Added space between “F” and “480-12” of the ASTM standard so it now reads “F 480-12” rather than “F480-12”
 - vii. Replaced “the” with “each”
- c. **Section 91(e):** Added “September 2003” to ASTM Standard reference
- d. **Section 91(f):** Added “Section 904, Aggregates” to INDOT Standard Specifications